STATISTICAL THEORY AND METHOD ABSTRACTS

INDEX SUPPLEMENT

VOLUME 9 · 1968

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STATISTICAL THEORY AND METHOD ABSTRACTS

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STATISTICAL THEORY AND METHOD ABSTRACTS

COVERAGE OF JOURNAL

THE aim of this journal is to give complete coverage of papers with contributions to the theory and method of mathematical statistics, theory of probability and immediately related subjects.

To this end journals of all parts of the world are scanned for possible papers to be represented and in the case of the following journals, that are largely devoted to statistical theory, the abstracting of papers is done on a complete or virtually complete basis:

Annals of Mathematical Statistics
Annals of the Institute of Statistical Mathematics
Biometrics
Biometrika
Bulletin of Mathematical Statistics
Journal of Applied Probability
Journal of the Indian Statistical Association
Journal of the Royal Statistical Society (Series B)
Metrika
Metron
Review of the International Statistical Institute
Sankhyā (Series A)
South African Statistical Journal
Technometrics
Zeitschrift für Wahrscheinlichkeitstheorie und verwandte Gebiete

In addition to the ordinary journals, there are other kinds of publication which fall within the scope of this journal of abstracts. They are experiment and other research station reports and relevant individual papers in the reports of conferences, symposia and seminars as well as commemorative volumes. Abstracts of the former type of paper will be limited to those of which it is reasonably sure the user can obtain reprints.

FORMAT OF JOURNAL

The abstracts are in the English language. The language of the original paper is indicated. In addition the address of the author is given when available to facilitate contact for discussing the contents of his paper or to request an offprint. There are indexes by name of author and by subject that are provided annually in a supplement. For the subject index, a classification scheme is designed with code-numbers allocated to each abstract.

There are one or two classification numbers for each abstract: a primary number in bold type to indicate the basic topic of the paper and a secondary number, if any, in brackets to take account of the most important cross-reference. The sheets of the journal are colour-coded according to the

twelve main sections of the classification and it should be noted that it is the main section number of the primary classification which determines the colour code for each abstract. The format and simple binding allows of the following alternative treatments by users of the journal:

(*a*) Leave intact as a shelf-periodical.
(*b*) Split and filed in page form according to the main sections of the classification.
(*c*) Split and guillotined (single cut) each page ready for:

(i) pasting on standard index cards,
(ii) filing in loose-leaf or other binders for which the appropriate holes are punched; binding cases are available from the publishers.

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NEW STATISTICAL TABLES

This index contains a listing of all those abstracts in Volume Nine concerning papers that contain new statistical tables. Tables presenting data or results of an investigation or illustrations of a new method are not considered.

If the primary purpose of the paper is to present a new table, the abstract will in general be accordingly classified under **11.1**. Papers which contain a new statistical table but with main purpose to present a new theory or method of testing, e.g. are classified under the relevant code, with 11.1 as secondary classification or even a different one. Since there always remains some ambiguity in assigning the primary and secondary classification number this index gives a complete list of all such papers, including those classified under 11.1.

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Krishnaji	9/320	**2.9**	Ascending pairs and runs in random sequence
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Anderson & Burstein	9/959	**4.4**	Approximating binomial confidence limits
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Pillai & Jayachandran	9/712	**5.11**	Tests of multivariate hypotheses
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Aitkin & Hume	9/1030	**6.5**	Expectation of rank correlation coefficients
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LIST OF ABBREVIATIONS OF NAMES OF JOURNALS

Abh. Math. Hamburg	Abhandlungen aus dem Mathematischen Seminar der Universität Hamburg	Germany
Acta Math. Acad. Sci. Hung.	Acta Mathematica Academiae Scientiarum Hungaricae	Hungary
Acta Math. Sinica	Acta Mathematica Sinica	China
Acta Physiol. Pharmacol. Neerl.	Acta Physiologica Pharmacologica Neerlandica	Netherlands
Amer. Math. Monthly	American Mathematical Monthly	USA
Analele Univ. Bucuresti, St. Nat. mat.-mec.	Analele Universităţii Bucureşti Seria Ştiinţele Naturii. Matematică —Mecanică	Romania
Ann. Hum. Genet.	Annals of Human Genetics	Great Britain
Ann. Inst. Statist. Math., Tokyo	Annals of the Institute of Statistical Mathematics	Japan
Ann. Math. Statist.	Annals of Mathematical Statistics	USA
Ann. Pont. Chaussées	Annales de Ponts et Chaussées	France
Annu. Tech. Conf. Trans., Amer. Soc. Qual. Contr.	Annual Technical Conference of the American Society of Quality Control	USA
Aplik. Mat.	Aplikace Matematiky	Czechoslovakia
Appl. Statist.	Applied Statistics	Great Britain
Arch. Mat.	Archiv der Mathematik	Germany
Ark. Mat.	Arkiv för Matematik	Sweden
ARL Tech. Rep.	Aerospace Research Laboratories, Technical Reports of	USA
Aust. J. Statist.	Australian Journal of Statistics	Australia
Biblioteca Metron	Biblioteca del Metron Serie C: Note e Commenti	Italy
Biometrics	Biometrics	USA
Biometrika	Biometrika	Great Britain
Biom. Prax.	Biométrie-Praximétrie	Belgium
Biom. Zeit.	Biometrische Zeitschrift	Germany
Blä. Dtsch. Ges. Versich.-math.	Blätter der Deutschen Gesellschaft für Versicherungsmathematik	Germany
Brit. J. Math. Statist. Psychol.	British Journal of Mathematical and Statistical Psychology	Great Britain
Brit. J. Phil. Sci.	British Journal for the Philosophy of Science	Great Britain
Bull. Calcutta Statist. Ass.	Bulletin, Calcutta Statistical Association	India
Bull. Math. Statist.	Bulletin of Mathematical Statistics	Japan
Bull. Soc. Math. Belg.	Bulletin de la Société Mathématique de Belgique, Gembloux	Belgium
Cahiers Bureau Univ. Rech. Opérat.	Cahiers du Bureau Universitaire de Recherche Opérationnelle	France
Cahiers Centre Études Rech. Opérat.	Cahiers du Centre d'Études de Recherche Opérationnelle	Belgium
Canad. J. Math.	Canadian Journal of Mathematics	Canada
Canada. Math. Bull.	Canadian Mathematical Bulletin	Canada
Čas. Pěst. Mat.	Časopis pro Pěstování Matematiky	Czechoslovakia
Comment. Phys. Math.	Commentationes Physico-Mathematicae	Finland
Comm. Pure Appl. Math.	Communications on Pure and Applied Mathematics	USA
Compos. Math., Groningen	Composito Mathematica, Groningen	Netherlands
Computer Bull.	The Computer Bulletin	Great Britain
Computer J.	Computer Journal	Great Britain
C.R. Acad. Sci., Paris	Comptes Rendus de l'Académie des Sciences, Paris	France
CSIRO Div. Math. Statist.	Commonwealth Scientific and Industrial Research Organisation Division of Mathematical Statistics	Australia
Cuad. Estadíst. Apl. Invest. Oper.	Cuadernos de Estadística Aplicada e Investigación e Operativa	Spain
Czech. Math. J.	Czechoslovak Mathematical Journal	Czechoslovakia
Docum. Administrativa	Documentación Administrativa	Spain
Econometrica	Econometrica	USA
Estadíst. Española	Estadística Española	Spain
Estadística	Estadística	USA
Estudos Mat., Estatíst. Econometria	Estudos Mathematicos, Estatística Econometria	Portugal
Exp. Agric.	Experimental Agriculture	Great Britain

Gawein	Gawein	Netherlands
Gaz. Mat.	Gazeta de Matemática	Portugal
Glass Tech.	Glass Technology	Great Britain
IEEE Trans. Inf. Theory	IEEE Transactions on Information Theory	USA
IEEE Trans. Rel.	IEEE Transactions on Reliability	USA
Indag. Math.	Indagationes Mathematicae, Amsterdam	Netherlands
l'Industria	l'Industria	Italy
Industr. Qual. Contr.	Industrial Quality Control	USA
J. Amer. Statist. Ass.	Journal of the American Statistical Association	USA
J. Animal Ecol.	Journal of Animal Ecology	USA
J. Appl. Prob.	Journal of Applied Probability	Great Britain
J. Aust. Math. Soc.	Journal of the Australian Mathematical Society	Australia
J. Documentation	Journal of Documentation	Great Britain
J. Ecol.	Journal of Ecology	Great Britain
J. Indian Soc. Agric. Statist.	Journal of the Indian Society of Agricultural Statistics	India
J. Inst. Actuar.	Journal of the Institute of Actuaries	Great Britain
J. Inst. Math. Appl.	Journal of the Institute of Mathematics and its Applications	Great Britain
J. London Math. Soc.	The Journal of the London Mathematical Society	Great Britain
J. reine angew. Math.	Journal für reine und angewandte Mathematik	Germany
J. R. Statist. Soc.	Journal of the Royal Statistical Society	Great Britain
J. S. Afric. Inst. Mining and Metallurgy	Journal of the South African Institute of Mining and Metallurgy	South Africa
J. Soc. Indust. Appl. Math.	Journal of the Society for Industrial and Applied Mathematics	USA
Jb. Nat. Ökon. Statist.	Jahrbücher für Nationalökonomie und Statistik	Germany
Kon. Ned. Meteor. Inst. Wet. Rap.	Koninklijk Nederlandsch Meteorologisch Instituut, Wetenschappelijk Rapport	Netherlands
Kovové Materiály	Kovové Materiály	Czechoslovakia
Magy. Tud. Akad. III Oszt. Közl.	Magyar Tudományos Akademia Matematikai és Fizikai Osztályának Közleményei	Hungary
Mat. Fys. Skr. Dan. Vid. Selsk.	Matematisk fysiske Skrifter udgivet af Det Kongelige Danske Videnskabernes Selskab	Denmark
Math. Ann.	Mathematische Annalen	Germany
Math. Nachr.	Mathematische Nachrichten	Germany
Math. Zeit.	Mathematische Zeitschrift	Germany
Mat. Lapok.	Matematikai Lapok	Hungary
Metrika	Metrika	Germany
Metron	Metron	Italy
Microelectronics Reliability	Microelectronics and Reliability	Great Britain
Mine Vent. J.	Journal of the Mine Ventilation of South Africa	South Africa
Monatsber. Dtsch. Akad. Wiss. Berlin	Monatsberichte der Deutschen Akademie der Wissenschaften zu Berlin	Germany
Monatsh. Math.	Monatshefte für Mathematik	Germany
Nature	Nature	Great Britain
Naval Res. Logist. Quart.	Naval Research Logistics Quarterly	USA
Numer. Math.	Numerische Mathematik	Germany
Operat. Res.	Operations Research	USA
Pacific J. Math.	Pacific Journal of Mathematics	USA
Philippine Statistician	The Philippine Statistician	Philippines
Proc. Camb. Phil. Soc.	Proceedings of the Cambridge Philosophical Society	Great Britain
Proc. Conf. Math. Methods Econ. Res.	Proceedings of the Conference on Mathematical Methods in Economic Research	Czechoslovakia
Proc. Edinburgh Math. Soc.	Proceedings of the Edinburgh Mathematical Society	Great Britain
Proc. Inst. Statist. Math., Tokyo	Proceedings of the Institute of Statistical Mathematics	Japan
Proc. Int. Symp. Classical and Contagious Discrete Distributions, Montreal	Proceedings of the International Symposium Classical and Contagious Discrete Distributions, Montreal	India
Proc. Kon. Ned. Akad. Wetensch.	Proceedings Koninklijke Nederlandse Akademie van Wetenschappen	Netherlands

Proc. Nat. Acad. Sci. USA	Proceedings of the National Academy of Sciences of the United States of America	USA
Proc. Roy. Soc.	Proceedings of the Royal Society	Great Britain
Psychometrika	Psychometrika	USA
Pubbl. seconda ser. Ist. Calcolo Prob.	Pubblicazioni della seconda serie dell'Istituto di Calcolo delle Probabilità	Italy
Public Health Service Publ.	Public Health Service Publication	USA
Publ. Inst. Statist., Paris	Publications de l'Institut de Statistique de l'Université de Paris	France
Publ. Math., Debrecen	Publicationes Mathematicae	Hungary
Publ. Math. Inst. Hung. Acad. Sci.	Publications of the Mathematical Institute of the Hungarian Academy of Sciences	Hungary
Qualitätskontrolle	Qualitätskontrolle	Germany
Rev. Belge Statist. Rech. Opérat.	Revue Belge de Statistique et de Recherche Opérationnelle	Belgium
Rev. Fac. Cienc., Lisboa A	Revista da Faculdade de Ciências, Lisbon	Portugal
Rev. Française Informatique Rech. Opérat.	Revue Française d'Informatique et de Recherche Opérationnelle	France
Rev. Int. Statist. Inst.	Review of the International Statistical Institute	Netherlands
Rev. Roum. Math. Pures Appl.	Revue Roumaine de Mathématiques Pures et Appliquées	Romania
Rev. Statist. Appl.	Revue de Statistique Appliquée	France
Ricerche Econ.	Ricerche Economiche	Italy
Riv. Ingegneria	Rivista di Ingegneria	Italy
S. Afric. J. Agric. Sci.	South African Journal of Agriculture Science	South Africa
S. Afric. Statist. J.	South African Statistical Journal	South Africa
Sankhyā	Sankhyā	India
SIAM Rev.	SIAM Revue	USA
Sitzungsber. Öst. Akad. Wiss.	Sitzungsberichte der Österreichische Akademie der Wissenschaften	Austria
Skand. Aktuarietidskr.	Skandinavisk Aktuarietidskrift	Sweden
Special Report WISK 44, Nat. Res. Inst. Math. Sci., CSIR Pretoria	Special Report WISK 44, National Research Institute of Mathematical Science, CSIR, Pretoria	South Africa
Statist. Hefte	Statistische Hefte	Germany
Statistica	Statistica	Italy
Statist. Neerlandica	Statistica Neerlandica	Netherlands
Statist. Praxis	Statistische Praxis	Germany
Statist. Tidskrift	Statistisk Tidskrift	Sweden
Studia Sci. Math. Hung.	Studia Scientiarum Mathematicarum Hungarica	Hungary
Studii Cercetări Econ.	Studii si Cercetări Economice	Romania
Studii Cercetări Mat.	Studii si Cercetări Matematice	Romania
Technometrics	Technometrics	USA
Trab. Estadíst.	Trabajos de Estadística y Investigación Operativa	Spain
Tydskrif Natuurwetenskappe	Tydskrif vir Natuurwetenskappe	South Africa
Unternehmensforschung	Unternehmensforschung	Germany
Virginia J. Sci.	The Virginia Journal of Science	USA
Wiss. Zeit. Humboldt Univ., Berlin	Wissenschaftliche Zeitschrift der Humboldt-Universität, Berlin	Berlin
Wiss. Zeit. Tech. Univ. Dresden	Wissenschaftliche Zeitschrift Technische Universität, Dresden	Germany
Zastosowania Mat.	Zastosowania Matematyki	Poland
Zeit. angew. Math. Mech.	Zeitschrift für angewandte Mathematik und Mechanik	Germany
Zeit. Wahrscheinlichkeitsth.	Zeitschrift für Wahrscheinlichkeitstheorie und verwandte Gebiete	Germany

BIBLIOGRAPHIC PAPERS

The following index gives a representation of all papers, abstracted in volume nine, where the number of references exceeds 20.

SCHEME FOR CLASSIFICATION OF ABSTRACTS

0. Mathematical Methods (White)
   0. General papers
   1. Solution of equations
   2. Methods of curve fitting
   3. Interpolation and quadrature
   4. Special functions and transforms
   5. Functional relationships
   6. Determinantal and matrix analysis
   7. Game theory
   8. Programming techniques
   9. Group and field theory
   10. Graph theory
   11. Measure theory
   12.

1. Probability (Pink)
   0. General papers
   1. Calculus of probabilities
   2. Expected values
   3. Combinatorial problems
   4. Geometric probability
   5. Limit theorems
   6. Stochastic convergence
   7. Stochastic approximation
   8. Decision theory and functions
   9. Transforms
   10. Convolutions
   11.
   12.

2. Frequency Distributions (Green)
   0. General papers
   1. Descriptive properties
   2. Transformations of variates
   3. Normal and lognormal
   4. Binomial, multinomial and hypergeometric
   5. Poisson, exponential, negative binomial, logarithmic and contagious
   6. Rectangular, extreme value and Weibull
   7. Pearson and " series expansion " distributions
   8. Truncated and mixed distributions
   9. Multivariate and other distributions
   10. Limit distributions
   11.
   12.

3. Sampling Distributions (Light Blue)
   0. General papers
   1. t, z, F and χ^2 distributions
   2. Non-central distributions
   3. Approximations; studentisation
   4. Quadratic forms
   5. Correlation and regression coefficients
   6. Location and scale statistics
   7. Shape and other descriptive statistics
   8. Order statistics
   9. Multivariate problems
   10. Limit distributions
   11. Linear forms
   12.

4. Estimation (Yellow)
   0. General papers
   1. Properties of estimators
   2. Types of estimator: fiducial, Bayes, maximum likelihood etc.,
   3. Individual estimators: point
   4. Individual estimators: interval
   5. Inequalities; tolerance limits and regions
   6. Distribution-free methods
   7. Sequential methods
   8. Multivariate problems
   9. Finite population procedures—surveys
   10. Simultaneous estimation
   11. Cumulative distribution
   12.

5. Hypothesis Testing (Purple)
   0. General papers
   1. Properties of test
   2. Individual hypotheses
   3. Two-sample problem
   4. k-sample problem
   5. Outliers
   6. Distribution-free tests
   7. Sequential tests
   8. Multivariate problems
   9. Types of test: likelihood ratio, Bayes, minimax, etc.
   10. Goodness-of-fit tests
   11. Combining and comparing tests
   12.

6. Relationships (Grey)
   0. General papers
   1. Regression; linear hypothesis, polynomials
   2. Correlation inc. canonical correlation
   3. Factor methods and principal components
   4. Discriminant analysis and other multivariate methods
   5. Ranking and scaling methods
   6. Systems of equations: structure
   7. Non-linear equations—logistic
   8. Transformed relationships—quantal reponse
   9. Association and contingency
   10. Functional relationships
   11. Non-standard conditions
   12.

7. Variance Analysis (Biscuit)
   0. General papers
   1. Fixed effects model
   2. Variance components model
   3. Mixed and other models
   4. Non-orthogonal data and missing values
   5. Non-standard conditions—failure of assumptions
   6. Covariance analysis
   7. Multiple comparisons; multiple decision procedures
   8. Ranked data
   9. Sequential methods inc. preliminary tests
   10. Combining sets of results
   11. Precision of measurement
   12. Multivariate models

8. Sampling Design (Orange)
   0. General papers
   1. Simple random; stratified; multi-stage
   2. Sampling with unequal probability
   3. Multi-phase sampling; double sampling
   4. Natural (human, animal and biological) populations
   5. Non-sampling problems
   6. Censored, systematic and quota sampling
   7. Nature and number of units; cost and efficiency
   8. Acceptance inspection
   9. Process control
   10.
   11.
   12.

9. Design of Experiments (Blue)
   0. General papers
   1. Complete and incomplete block designs
   2. Factorial arrangements
   3. Response surfaces
   4. Nature of unit; number of replications; cost and efficiency
   5. Paired comparisons and matching problems
   6. Preference tests
   7. Repeated and sequential experiments
   8. Weighing problems
   9. Sensitivity problems
   10. Systematic designs
   11. Screening tests
   12. Other designs, *e.g.* mixtures

10. Stochastic Theory and Time Series Analysis (Red)
   0. General papers
   1. Properties of individual processes
   2. Estimation problems
   3. Tests of hypotheses
   4. Queueing, storage, risk and congestion theory
   5. Information theory
   6. Stationary processes and spectral analysis
   7. Auto and serial correlation
   8. Multivariate processes
   9. Biological population studies; genetic models
   10. Renewal theory
   11. Markov chains and processes
   12.

11. Miscellaneous and Special Topics (Cream)
   0. General statistical methodology
   1. Statistical tables and charts
   2. Probability graph papers
   3. Nomograms and graphic methods
   4. Machine methods; hand and punched cards
   5. Machine methods; electronic digital
   6. Machine methods; other
   7. Monte Carlo methods
   8. Index numbers
   9. History, biography and bibliography
   10. Inventory
   11. Life-testing and reliability
   12. Teaching and training methods

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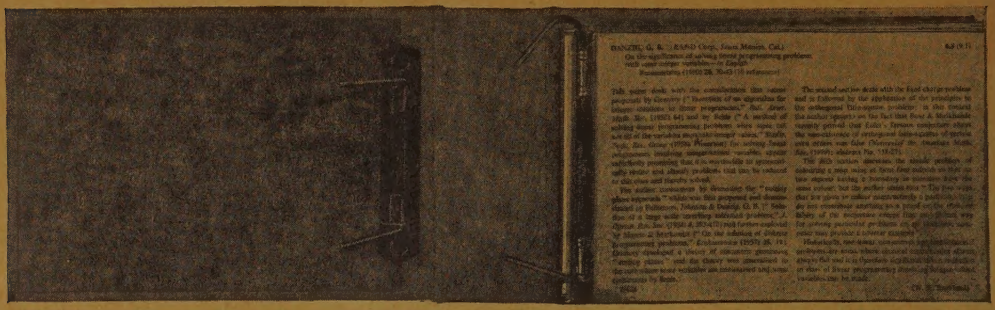

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